EPA Region 7 TMDL Review

TMDL ID	*124*	*Water Body ID*	*417, 418, 419, 421*
Water Body Name	*Blue River*		
Pollutant	*Chlordane*		
Tributary	*Wolf Creek and Coffee Creek*		
State	*MO HUC*	*100300101*	
Basin	*Blue River Basin*		
Submittal Date	*9/11/01*	*Completion Date*	*10/11/01*
Approved	*Yes*		

Submittal Letter

State submittal letter indicates final TMDL(s) for specific pollutant(s)l water(s) were adopted by the state, and submitted to EPA for approval under section 303(d) of the Clean Water Act.

The cover letter submitting these four final TMDLs was dated September 11, 2001.

Water Quality Standards Attainment

The water body's loading capacity for the applicable pollutant is identified and the rationale for the method used to establish the cause-and-effect relationship between the numeric target and the identified pollutant sources is described. TMDL and associated allocations are set at levels adequate to result in attainment of applicable water quality standards.

The loading capacity is established as zero since chlordane is an EPA banned pesticide. This is more stringent than Missouri's Water Quality Standards, described below.

Numeric Target(s)

Submittal describes applicable water quality standards, including beneficial uses, applicable numeric andlor narrative criteria. If the TMDL is based on a target other than a numeric water quality criterion, then a numeric expression, site specific if possible, was developed from a narrative criterion and a description of the process used to derive the target is included in the submittal.

Missouri's numeric criterion for chlordane in the water is 0.00048 ug/L, however, when the water is sampled and analyzed, that level is never exceeded because chlordane is not

soluble in water. Missouri uses the FDA fish tissue action level of 0.3 mg/kg chlordane in fish tissue as the criteria for determining fish consumption use impairment.

Link Between Numeric Target(s) and Pollutant(s) of concern

An explanation and analytical basis for expressing the TMDL through surrogate measures (e.g., parameters such as percent fines and turbidity for sediment impairments, or chlorophyll-a and phosphorus loadings for excess algae) is provided, if applicable. For each identified pollutant, the submittal describes analytical basis for conclusions, allocations and margin of safety that do not exceed the load capacity.

The Blue River was listed as impaired for chlordane due to the existence of a fish advisory on the water body. MO's protocol for removing or downgrading a fish advisory requires at least two years of fish tissue chlordane data below 0.3 mg/kg. The numeric target is the FDA action level, which is the criterion that Missouri uses to determine impairment.

Source Analysis

Important assumptions made in developing the TMDL, such as assumed distribution of land use in the watershed, population characteristics, wildlife resources, and other relevant information affecting the characterization of the pollutant of concern and its allocation to sources, are described. Point, non point and background sources of *pollutants of concern are described, including magnitude and location of the sources. Submittal demonstrates all significant sources have been considered.*

The TMDL provides a historic discussion of the Blue River and the land uses, and describes the onset of the uses of chlordane, the concentration of the pesticide found in different species of fish, and the banning of the pesticide in 1988. Monitoring indicates that chlordane levels in fish tissue are decreasing over time. The fish advisory was lifted on July 9, 2001.

Allocation

Submittal identifies appropriate wasteload allocations for point, arid load allocations for nonpoint sources. If no point sources are present the wasteload allocation is zero. If no nonpoint sources are present, the load allocation is zero.

The load and waste load allocations are both established as zero. The reasonable assurance that these loadings will not be exceeded is that chlordane was banned for us in 1988, and therefore no more chlordane will be applied in the environment.

WLA Comment

The WLA is zero.

LA Comment

The LA is zero.

Margin of Safety

Submittal describes explicit andlor implicit margin of safety for each pollutant. If the MOS Is implicit, the conservative assumptions in the analysis for the MOS are described. If the MOS is explicit, the loadings set aside for the MOS are identified and a rationale for selecting the value for the MOS is provided.

The WLA and the LA are both zero, and it is not possible to reduce these numbers any further with a Margin of Safety. Missouri will continue to monitor chlordane levels in fish tissue and issue fish consumption advisories as needed, as a way to satisfy the intent of a Margin of Safety.

Seasonal Variation and Critical Conditions

Submittal describes the method for accounting for seasonal variation and critical conditions in the TMDL(s).

The seasonal variation of the levels of chlordane in the water body is not significant for this TMDL.

Public Participation

Submittal describes public notice and public comment opportunity, and explains how the public comments were considered in the final TMDL(s).

Six public meetings covering Missouri TMDLs were held between August 18 and September 22, 1998. The TMDL was public noticed prior to sending to EPA for final approval.

Monitoring Plan for TMDL(s) Under Phased Approach

The TMDL identifies the monitoring plan that describes the additional data to be collected to determine if the load reductions required by the TMDL lead to attainment of WQS, and a schedule for considering revisions to the TMDL(s) (where phased approach is used).

Missouri will routinely monitor fish tissue samples from the water body.

Reasonable assurance

Reasonable assurance only applies when reductions in nonpoint source loading is required to meet the prescribed waste load allocations.

The allocations are zero for the Load Allocation and the Wasteload Allocation.